

AMENDMENTS TO THE CLAIMS

Pursuant to 37 C.F.R. § 1.121 the following listing of claims will replace all prior versions, and listings, of claims in the application.

Listing of the Claims:

1. (Currently amended). A method for producing monosaccharides from a biomass comprising the steps of:

a) a first step of pre-treating the biomass in by spraying onto the biomass a solution of 65 to 85 (w/w)% sulfuric acid at a temperature of 30 to 70°C and mixing the sulfuric acid into the biomass to form decrystallization of the biomass,

b) a second step of subjecting the pretreated product pretreated in the first step to saccharification treatment hydrolysis in 20 to 60 (w/w)% sulfuric acid at a temperature of 40 to 100°C to saccharify the pretreated product,

c) a step 2A of subjecting filtrating the treatment saccharified product to form a filtrate and a solid of the second step resulting from saccharification treatment in the second step to filtration,

d) a step 2B, of separating the filtrate following step 2A into sugar and acid, and

e) a third step of subjecting the sugar in the filtrate product of step 2B resulting from saccharification treatment in the second step to monosaccharification treatment by hydrolysis in 0.5 to 5 (w/w)% sulfuric acid at a temperature of 110 to 150°C, in the absence of further steps of decrystallization, hydrolysis and solid-liquid separation, and

wherein the final conversion rate from the biomass to monosaccharide is 60% or higher.

2-4. (Canceled).

5. (Currently amended). The method for producing monosaccharides according to claim 1, wherein the weight-based mixing ratio of the sulfuric acid to biomass is 0.3 to [[5.0]] 1.0 (w/w).

6. (Currently amended). The method for producing monosaccharides according to claim 1, ~~wherein the second step uses a washing filtrate, obtained by washing the solid after step 2A further including the steps of washing the solid obtained after filtering the saccharified product with water to form a washing filtrate and using the washing filtrate to improve the sugar and sulfuric acid recovery rates.~~

7. (Canceled).

8. (Currently amended) The method for producing monosaccharides according to claim 1, wherein the sulfuric acid recovered in the step of separating the filtrate is used in the second step of subjecting the pretreated product to hydrolysis is low-concentration sulfuric acid after step 2B.

9. (Original) The method for producing monosaccharides according to claim 1, wherein the biomass is a cellulose-based biomass.

10. (Withdrawn) A monosaccharide production device provided with: a sulfuric acid spraying and mixing device, which sprays 65 to 85(w/w)% sulfuric acid onto a biomass and mixes the sulfuric acid and biomass by rotating to obtain a sulfuric acid-sprayed/mixed biomass, a continuous kneading device which kneads the sulfuric acid-sprayed/mixed biomass from the sulfuric acid spraying and mixing device by applying shear force to obtain a kneaded product, and a hydrolysis reaction device which adds water or low-concentration sulfuric acid to the first step treatment product in the form of the kneaded product from the continuous kneading device to dilute the sulfuric acid concentration to 20 to 60(w/w)% followed by treatment at a temperature of 40 to 100°C; wherein, sequential intermediate products are continuously sent from the sulfuric acid-spraying/mixing device to the hydrolysis reaction device.

11. (New) The method for producing monosaccharides according to claim 1, wherein the weight-based mixing ratio of the sulfuric acid to biomass is 1.3 to 5.0 (w/w).

12. (New) The method for producing monosaccharides according to claim 1, wherein separation of the filtrate into sugar and acid is performed through a simulated moving bed chromatographic separation device.